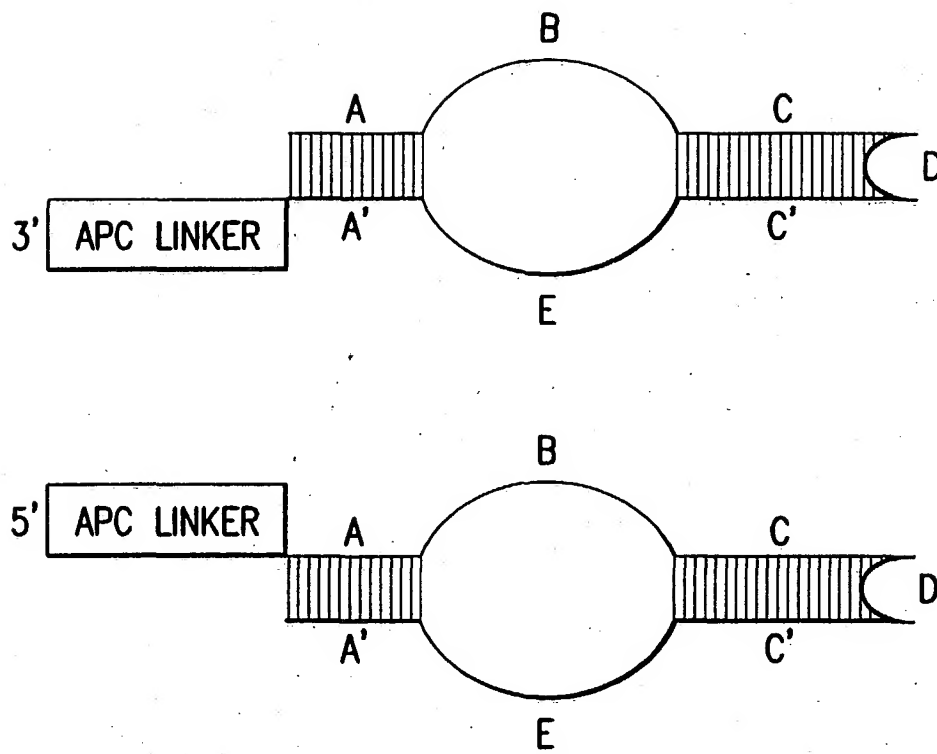


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**Title: Molecular Detection Systems Utilizing  
Reiterative Oligonucleotide Synthesis**



**FIG.1**

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Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

DOUBLE STRANDED OR SINGLE STRANDED DNA OR RNA

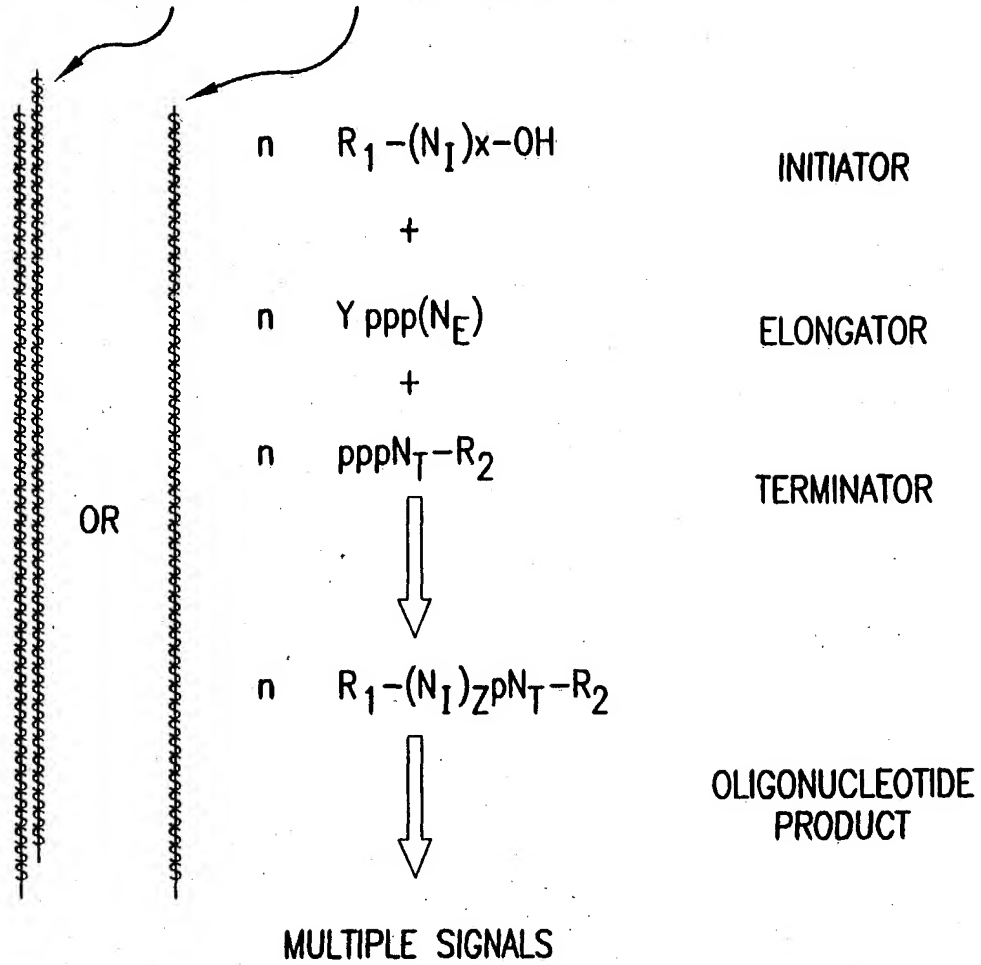


FIG.2

Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

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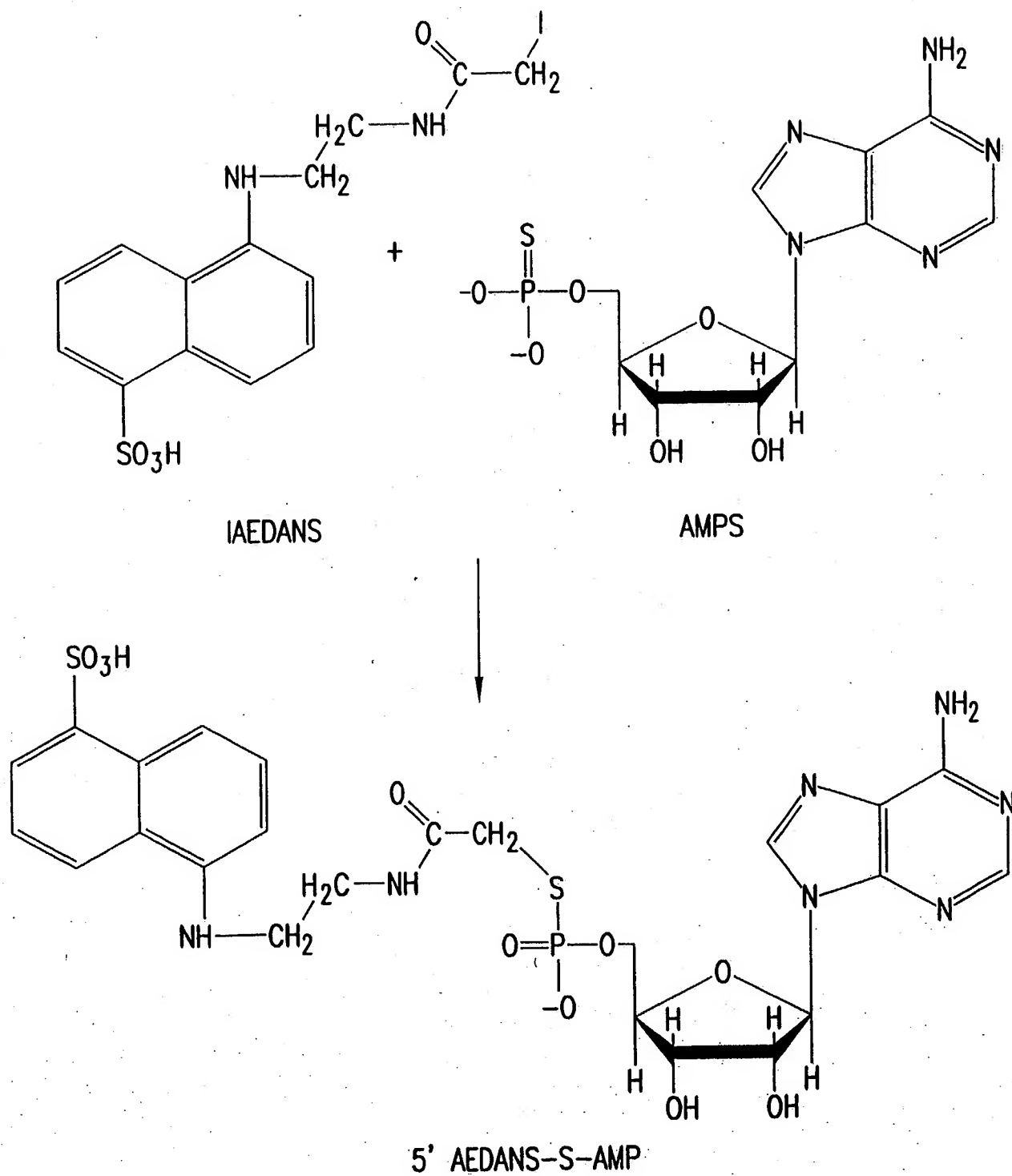
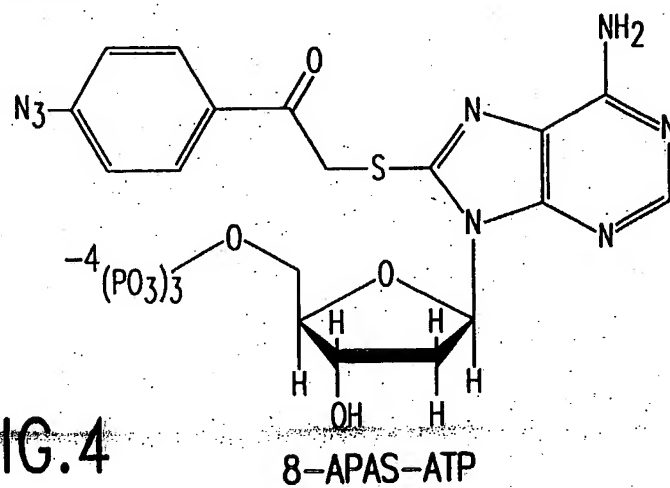
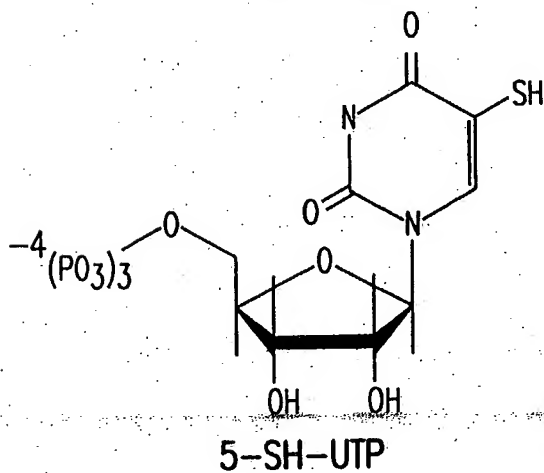
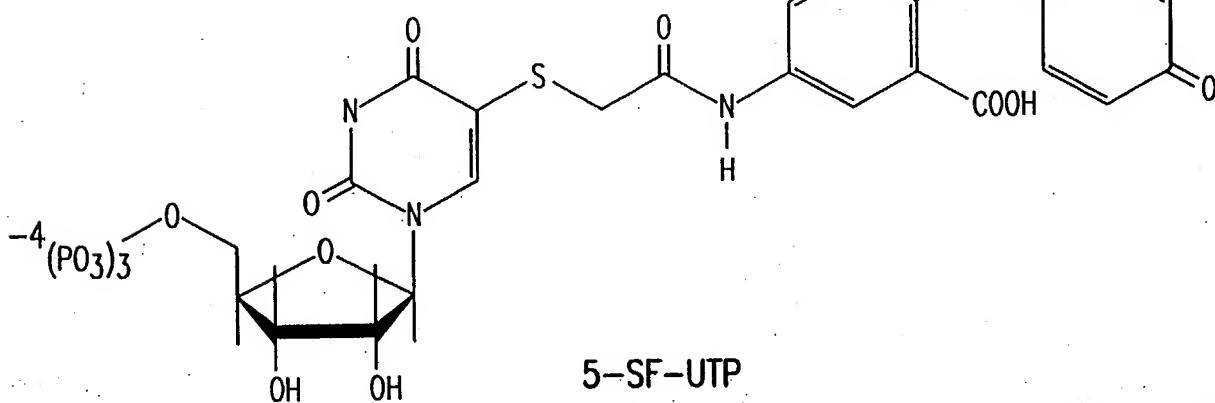
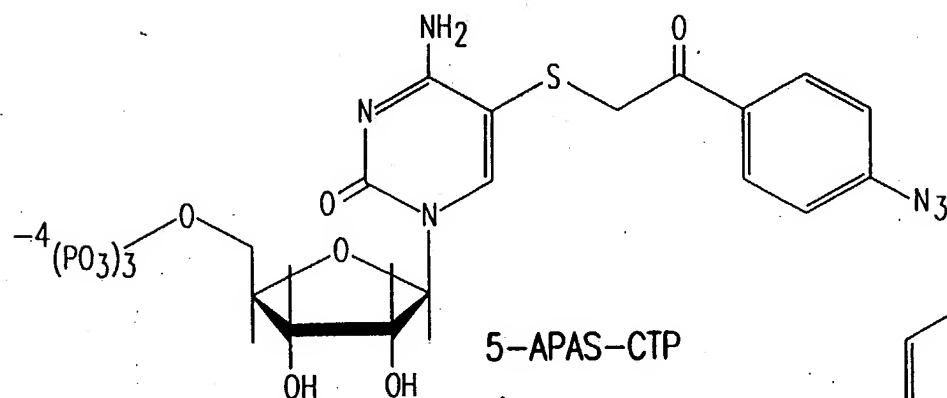
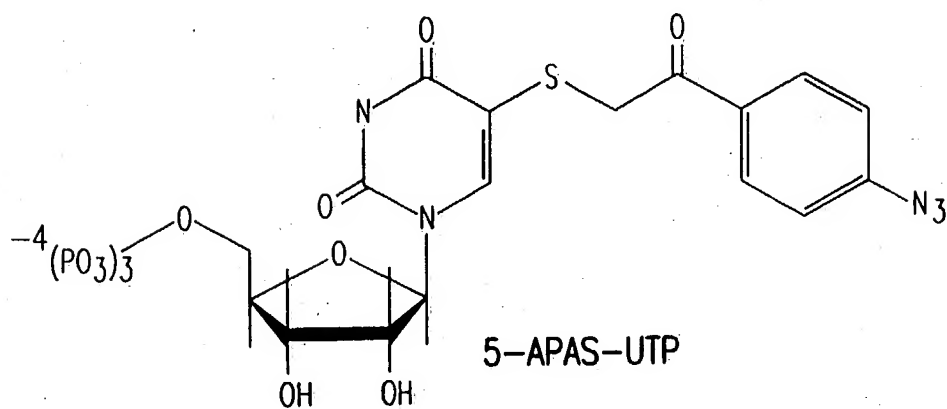


FIG.3

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**Title: Molecular Detection Systems Utilizing  
 Reiterative Oligonucleotide Synthesis**



**FIG. 4**

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Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

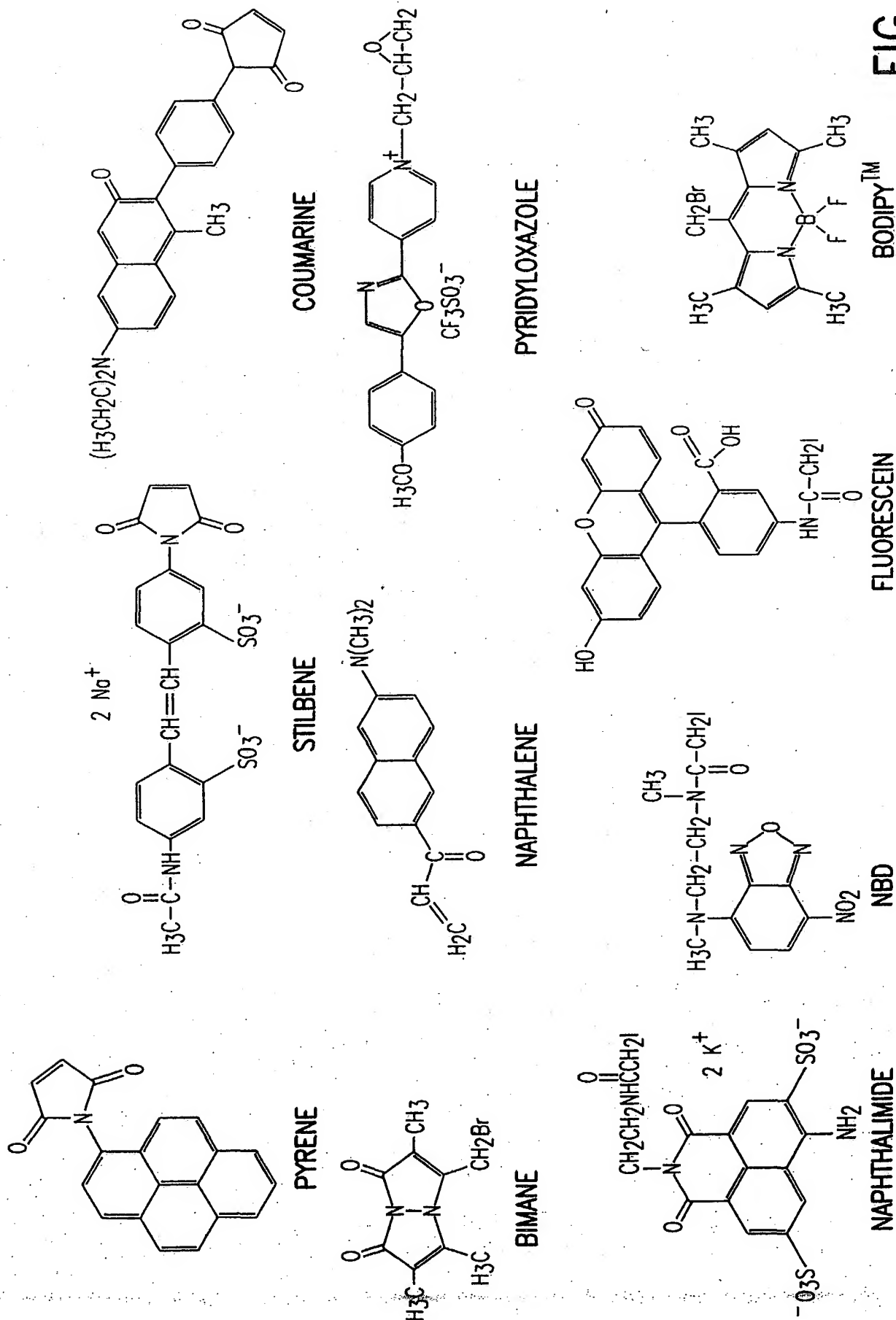


FIG.5

Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

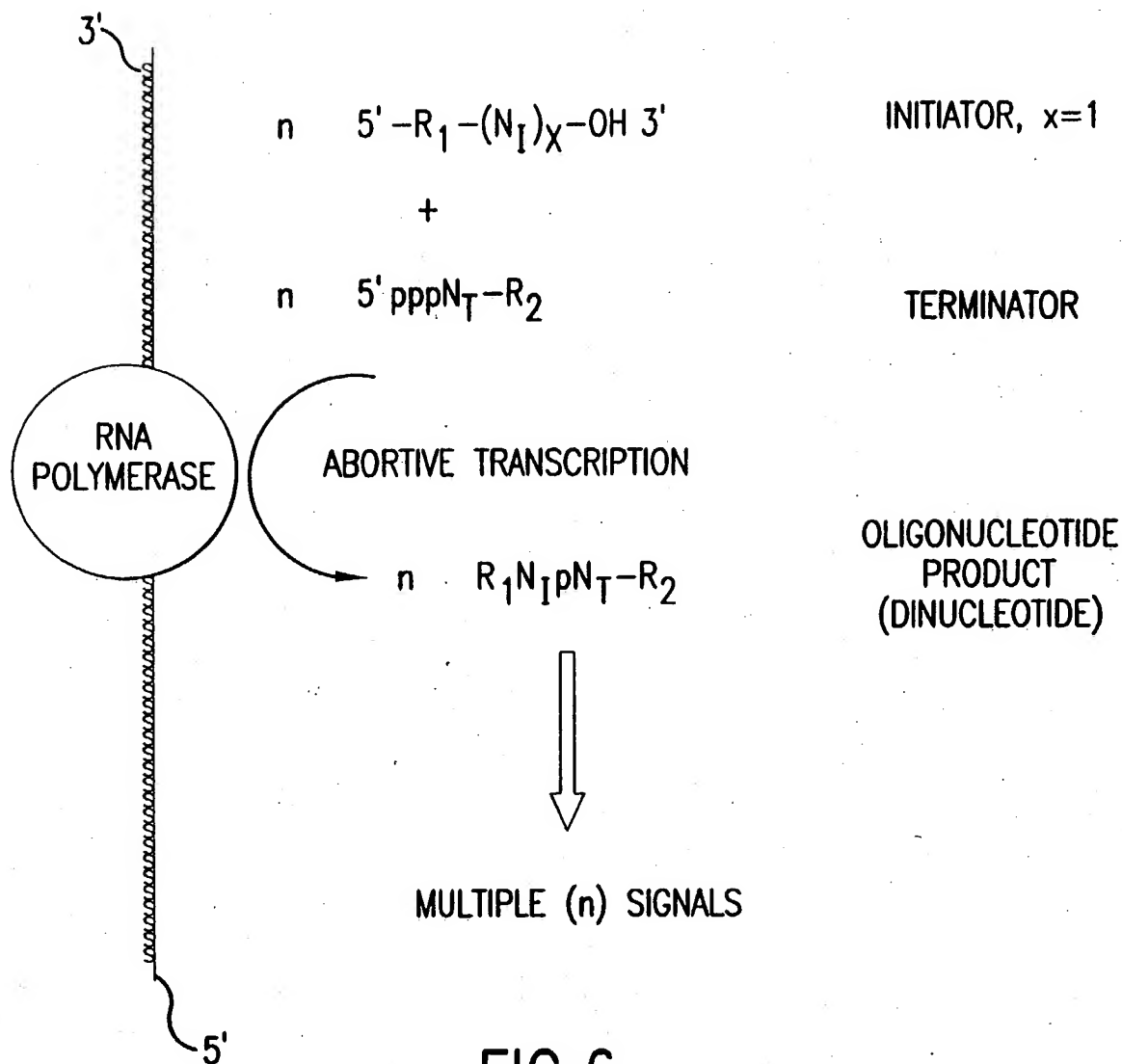
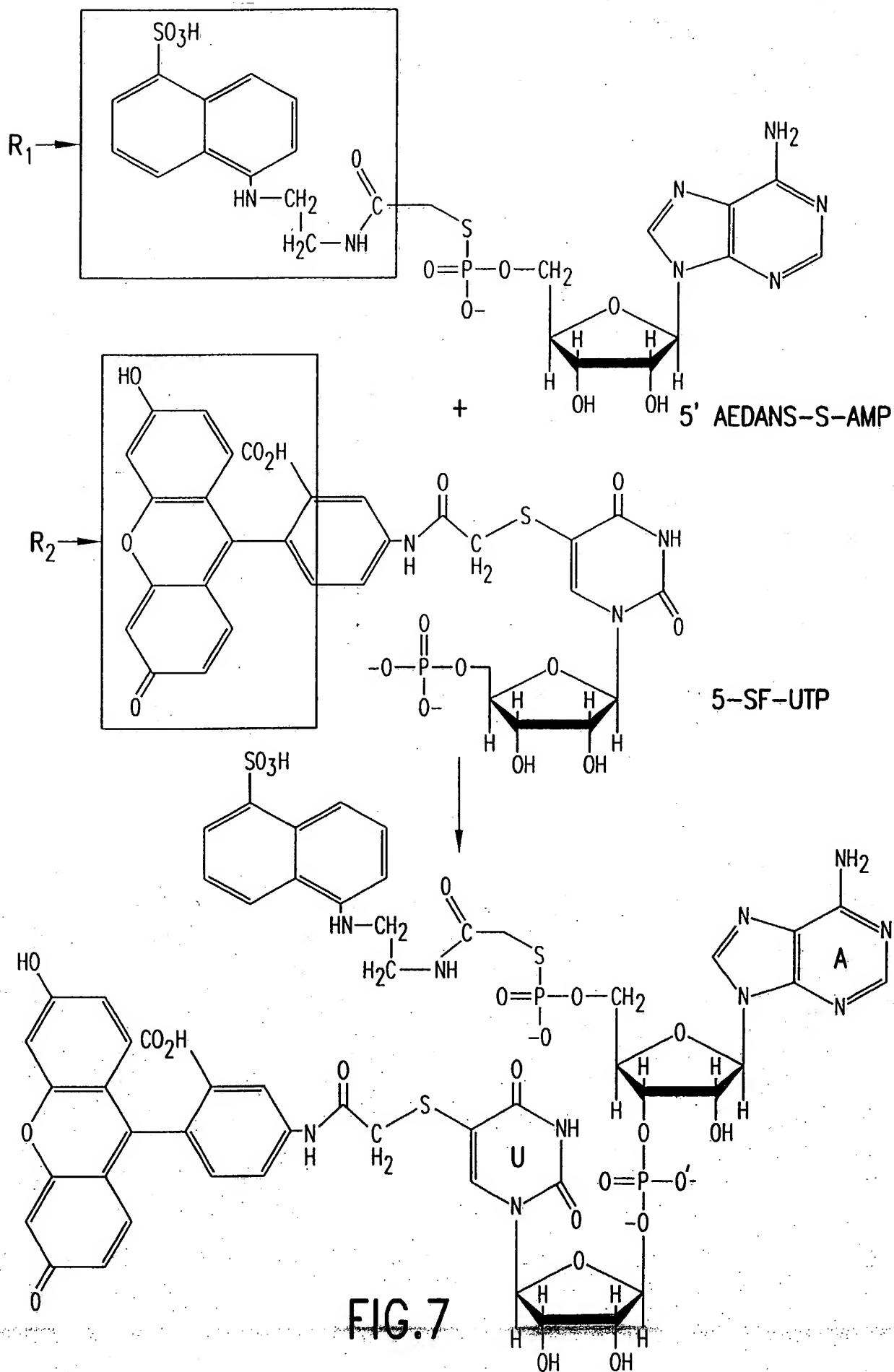


FIG.6

Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis



Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

**Title: Molecular Detection Systems Utilizing  
Reiterative Oligonucleotide Synthesis**

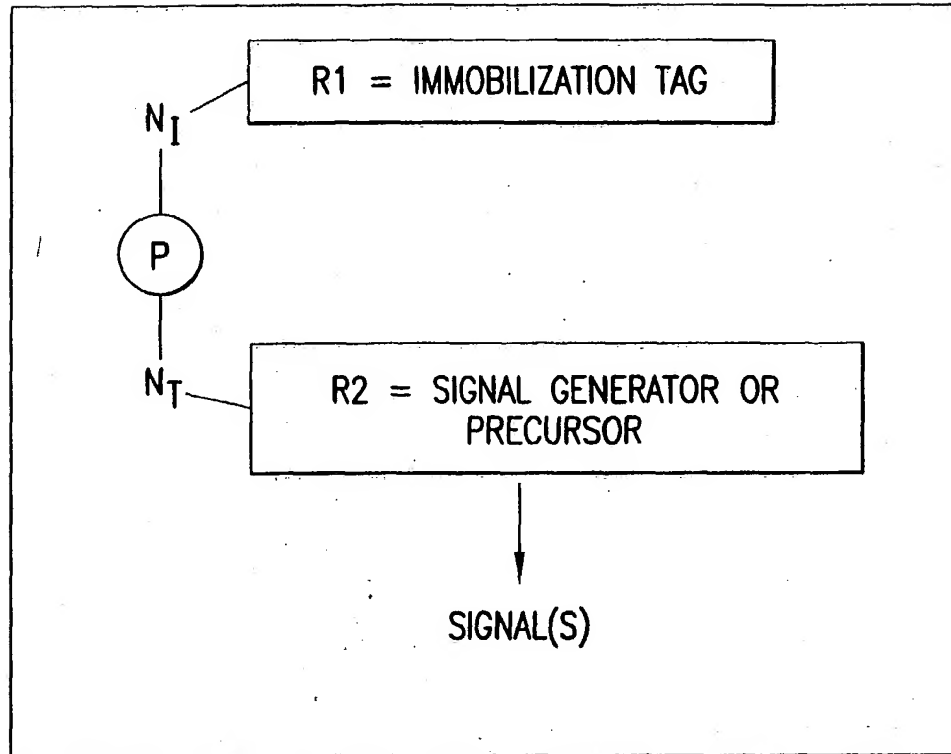


FIG.8



Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
**Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis**

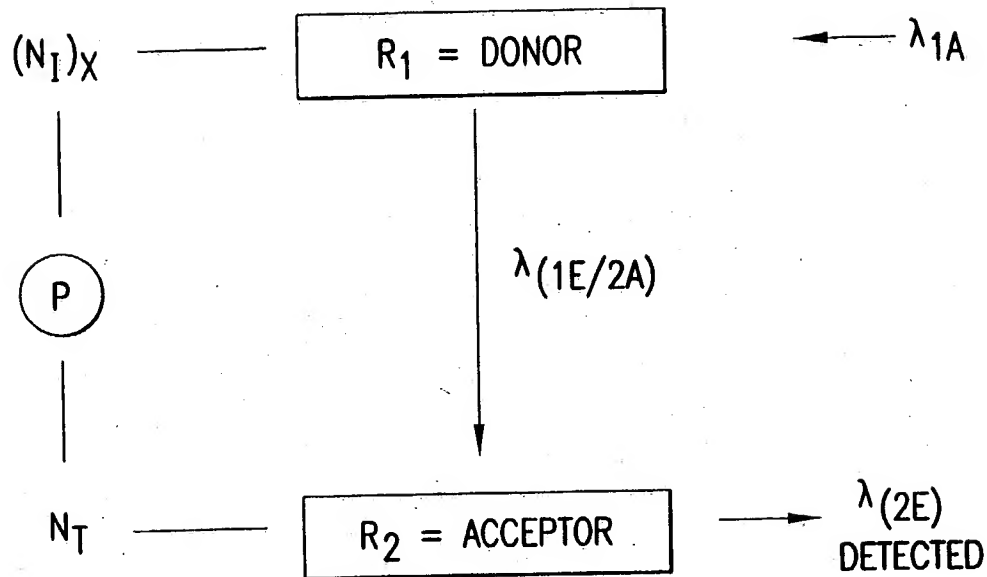
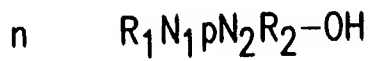
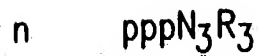


FIG.9



+



WHERE  $N_3$  IS A TERMINATOR

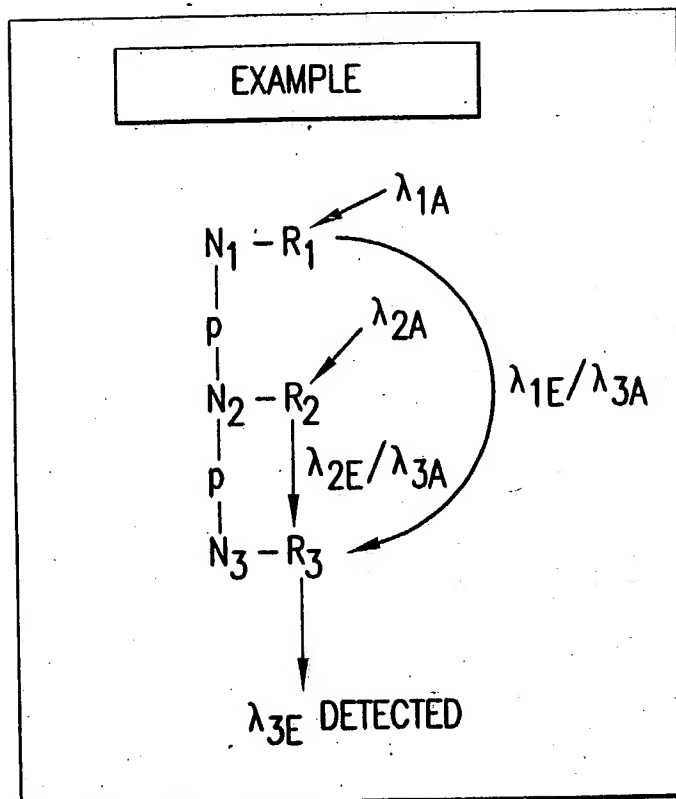
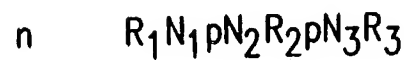


FIG.10

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**Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis**

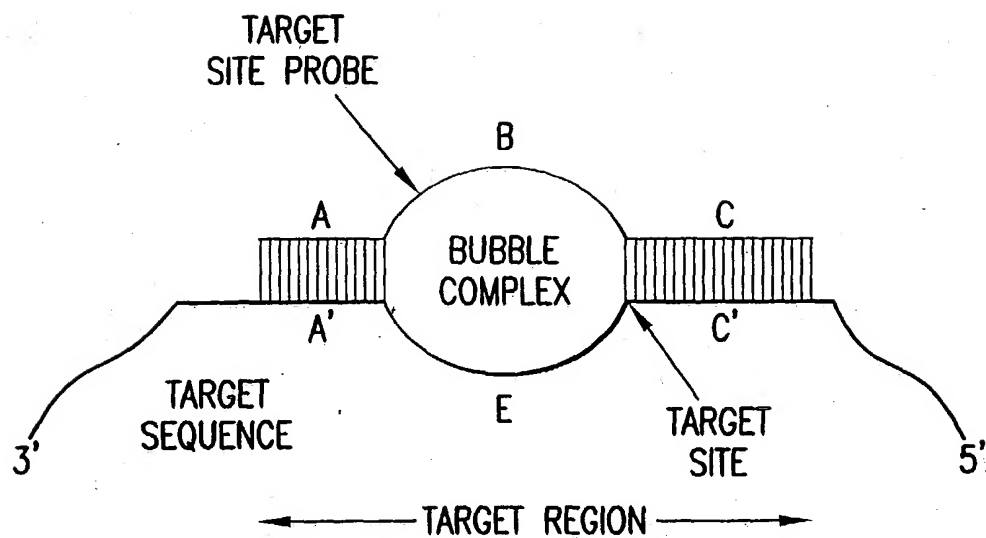


FIG.11

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

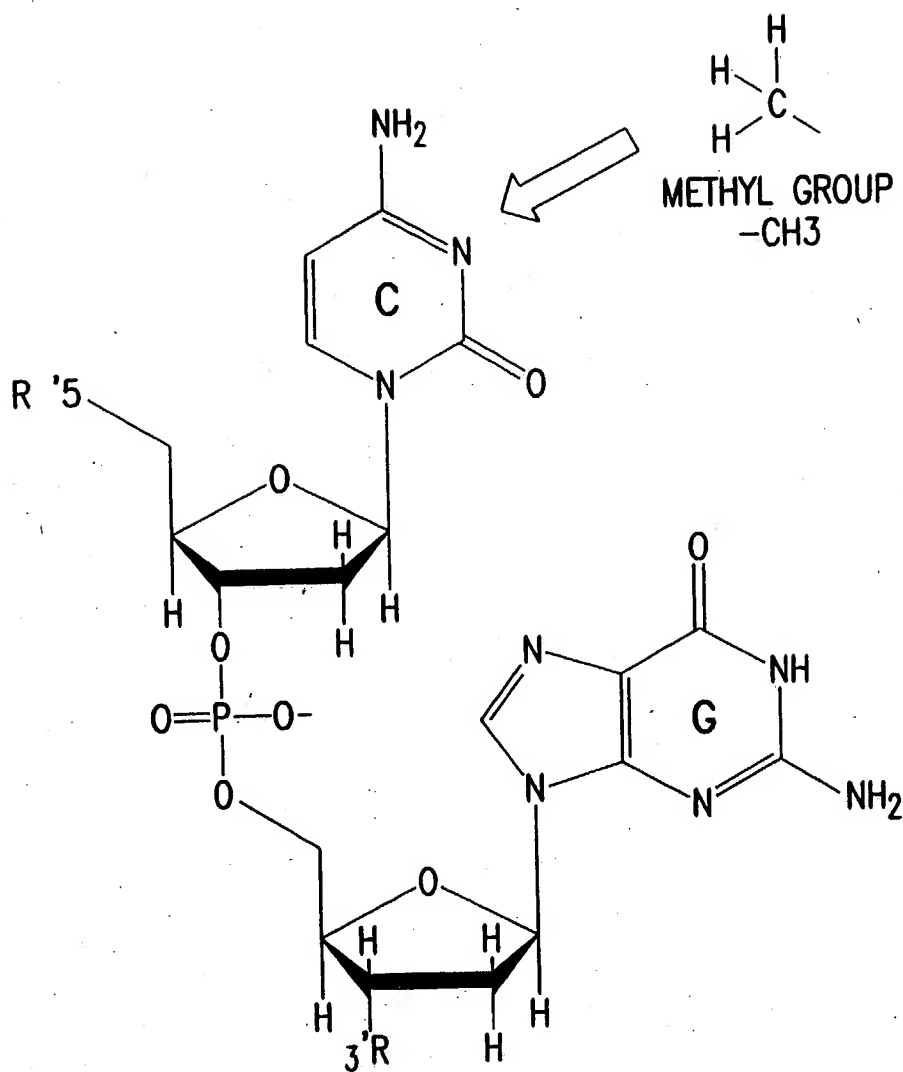


FIG.12

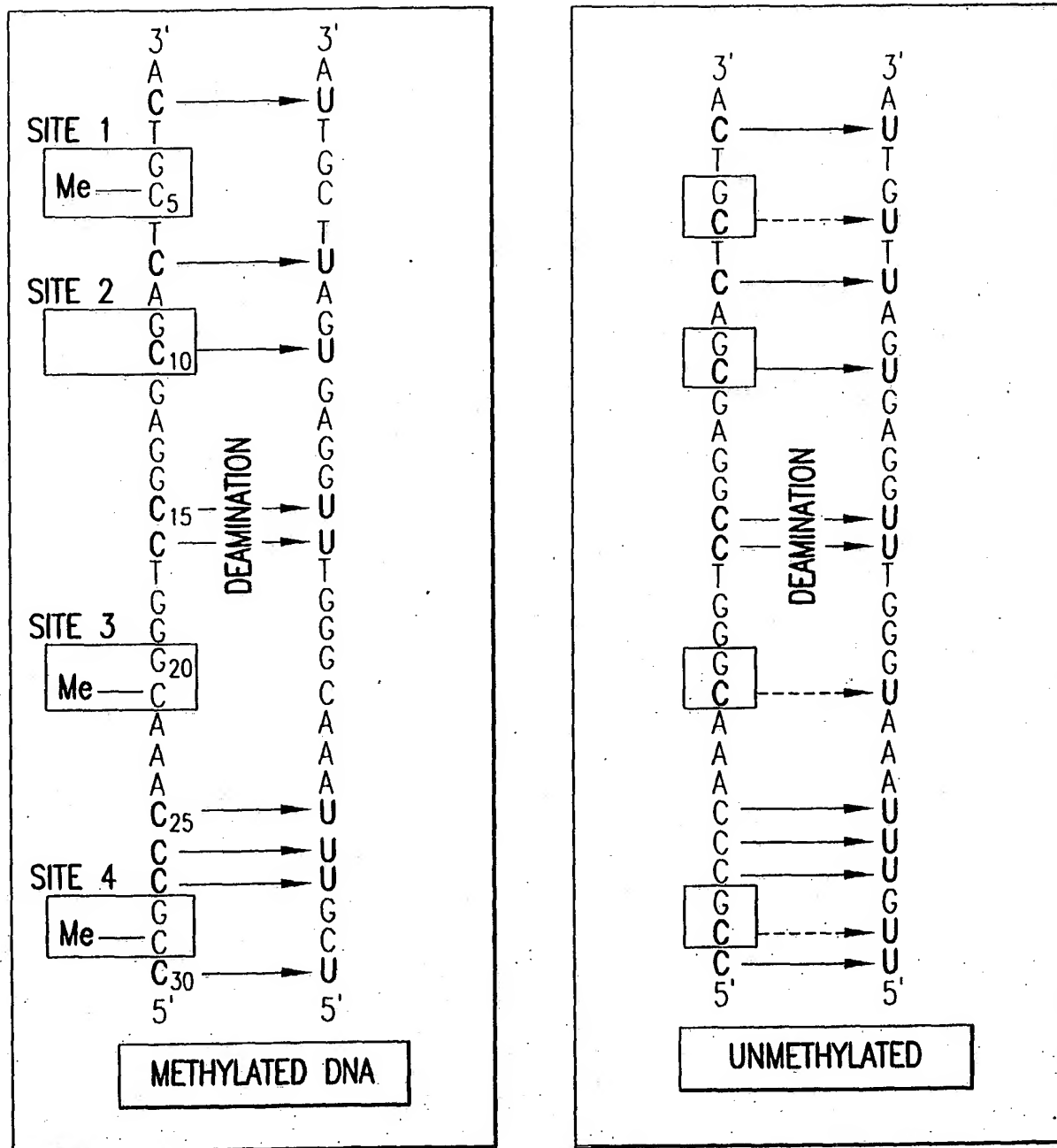
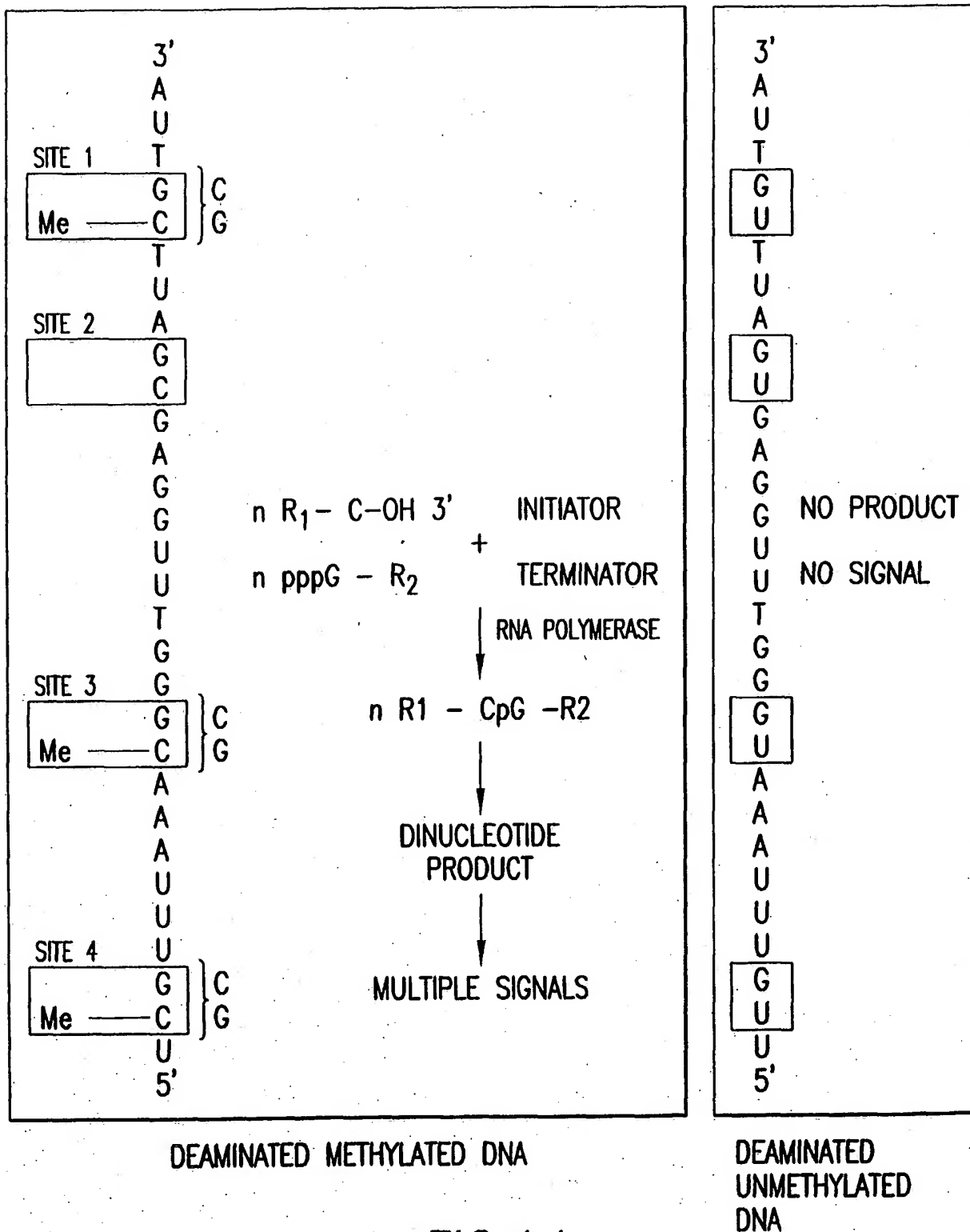


FIG.13



Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

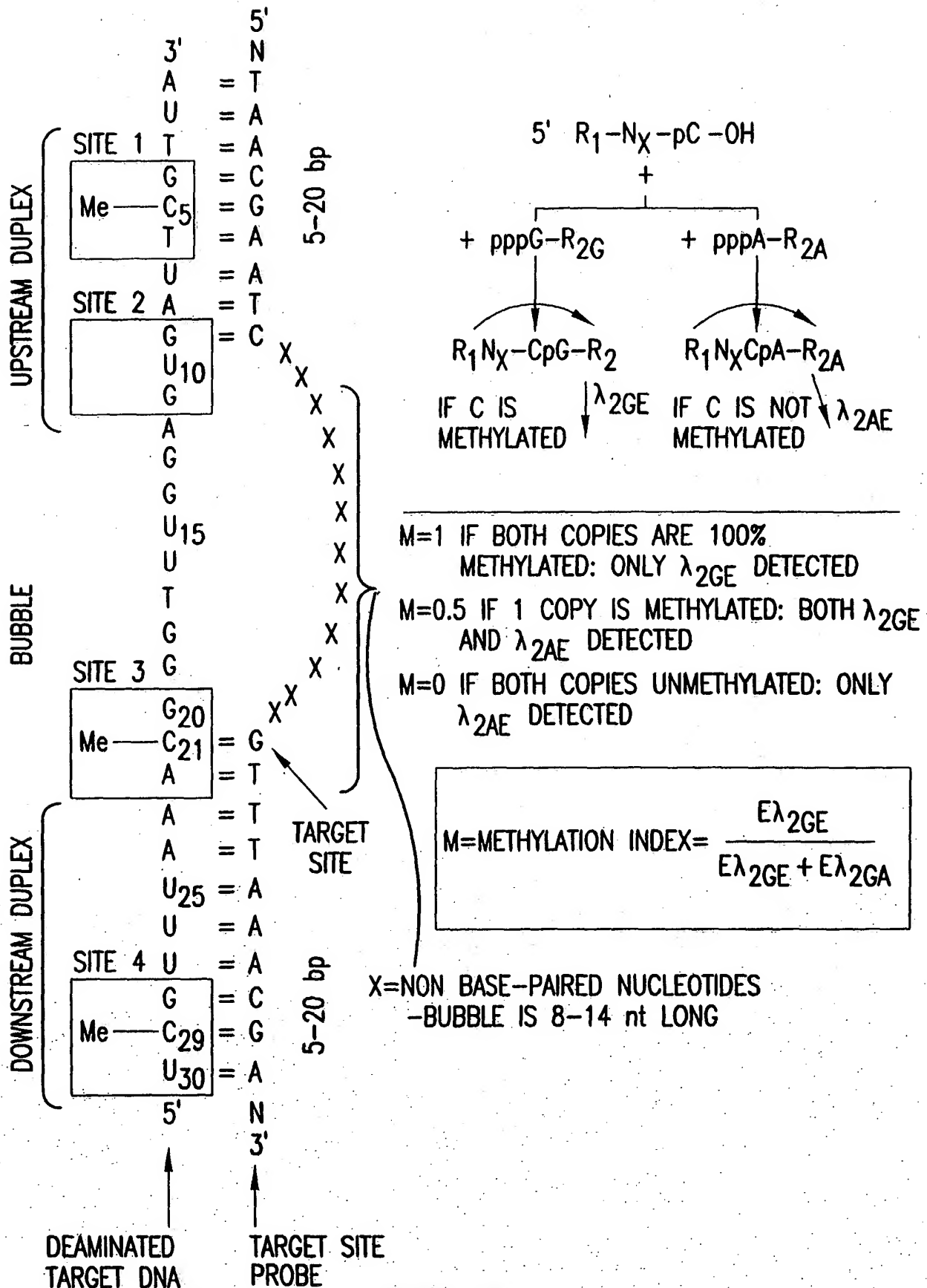


FIG.15

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

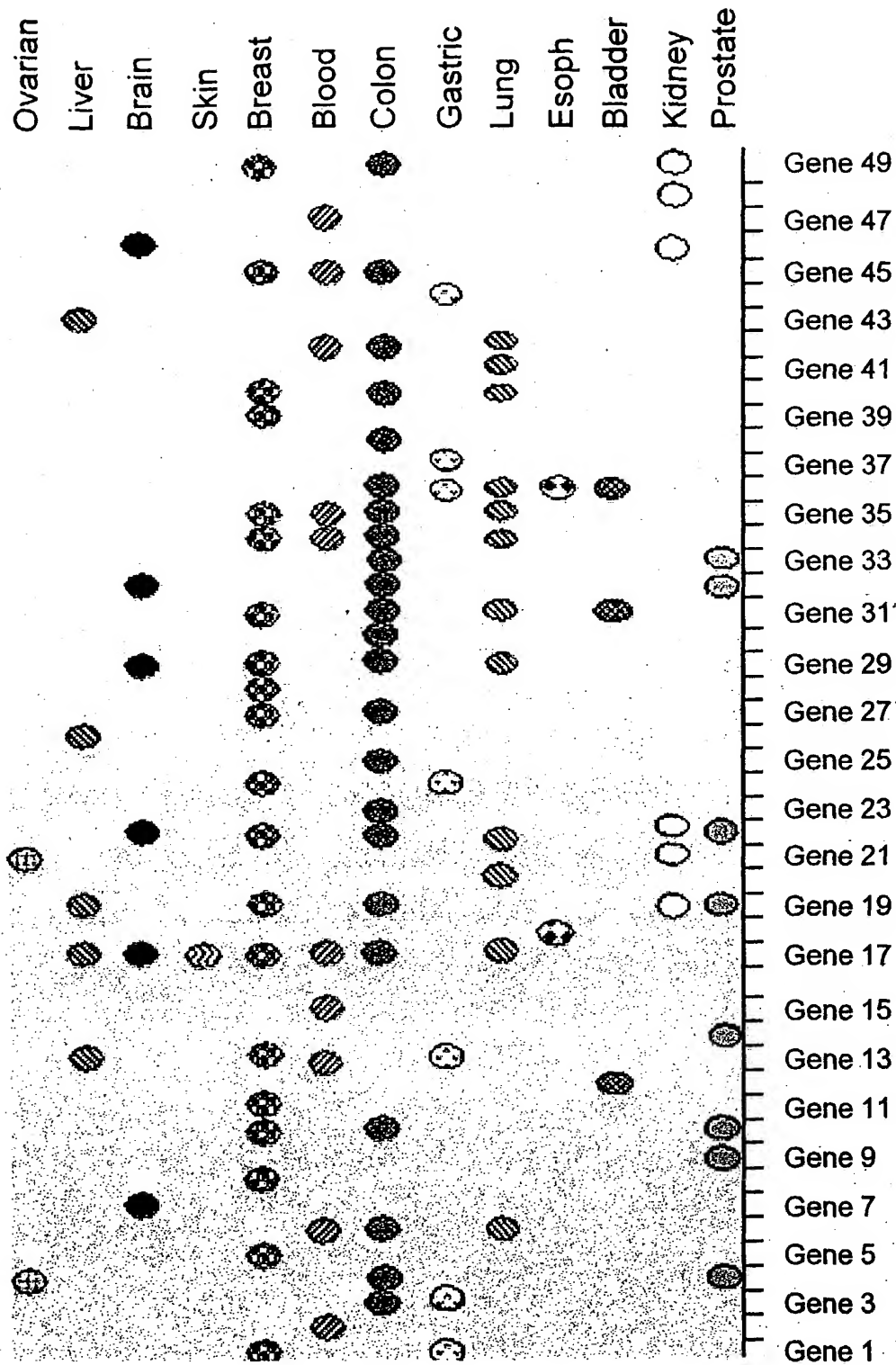


FIG. 16



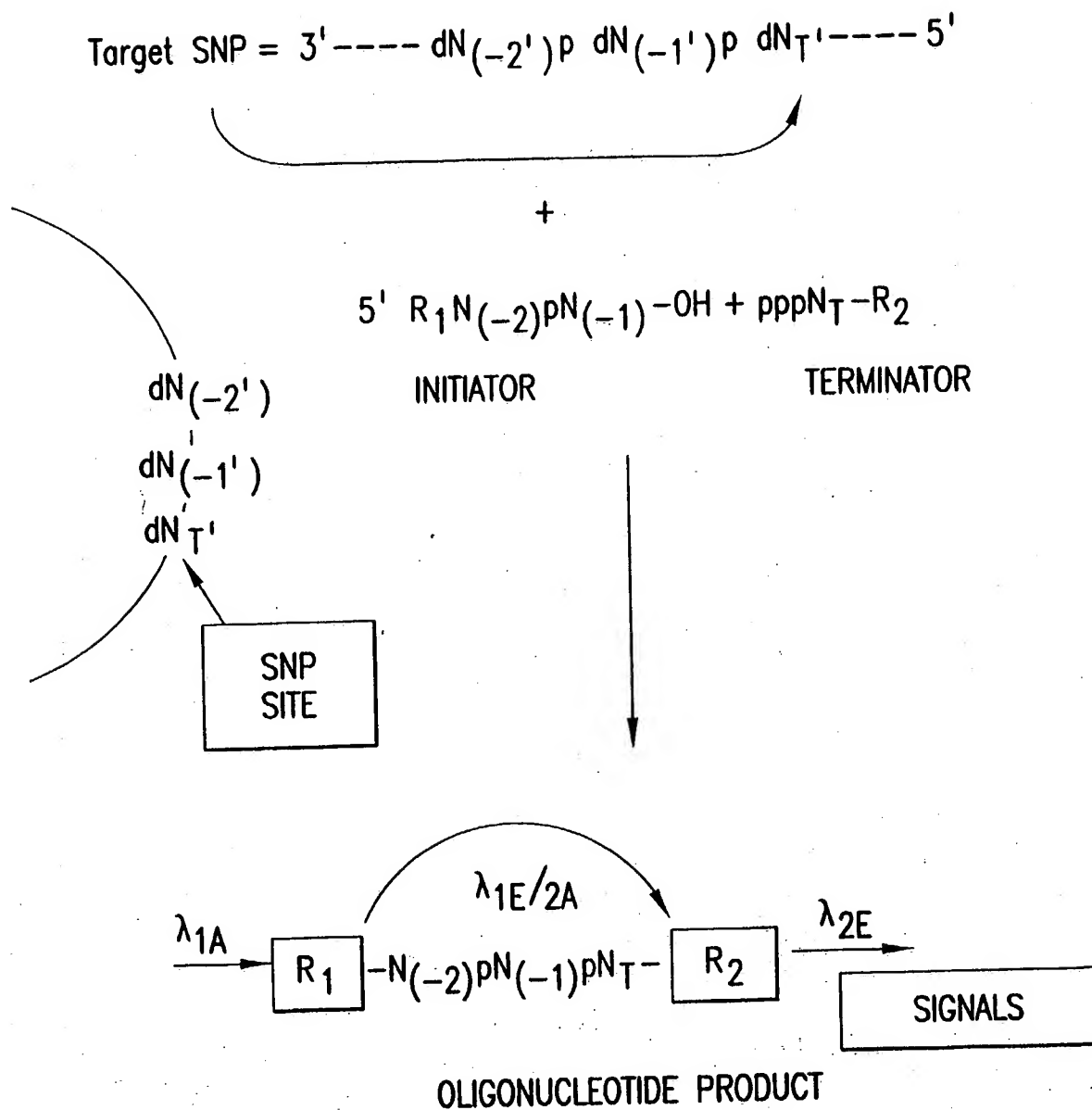


FIG.17

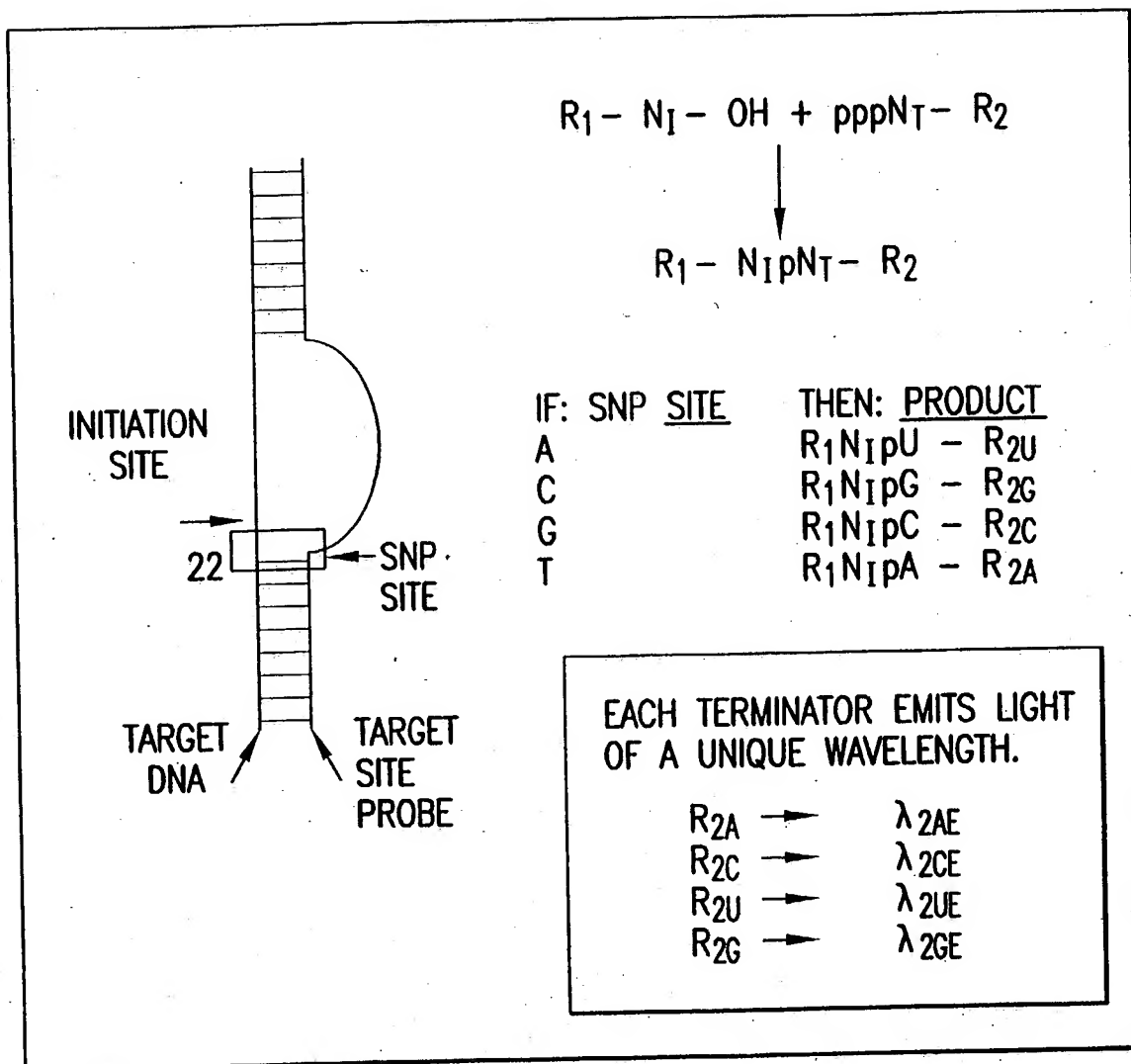


FIG.18

Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

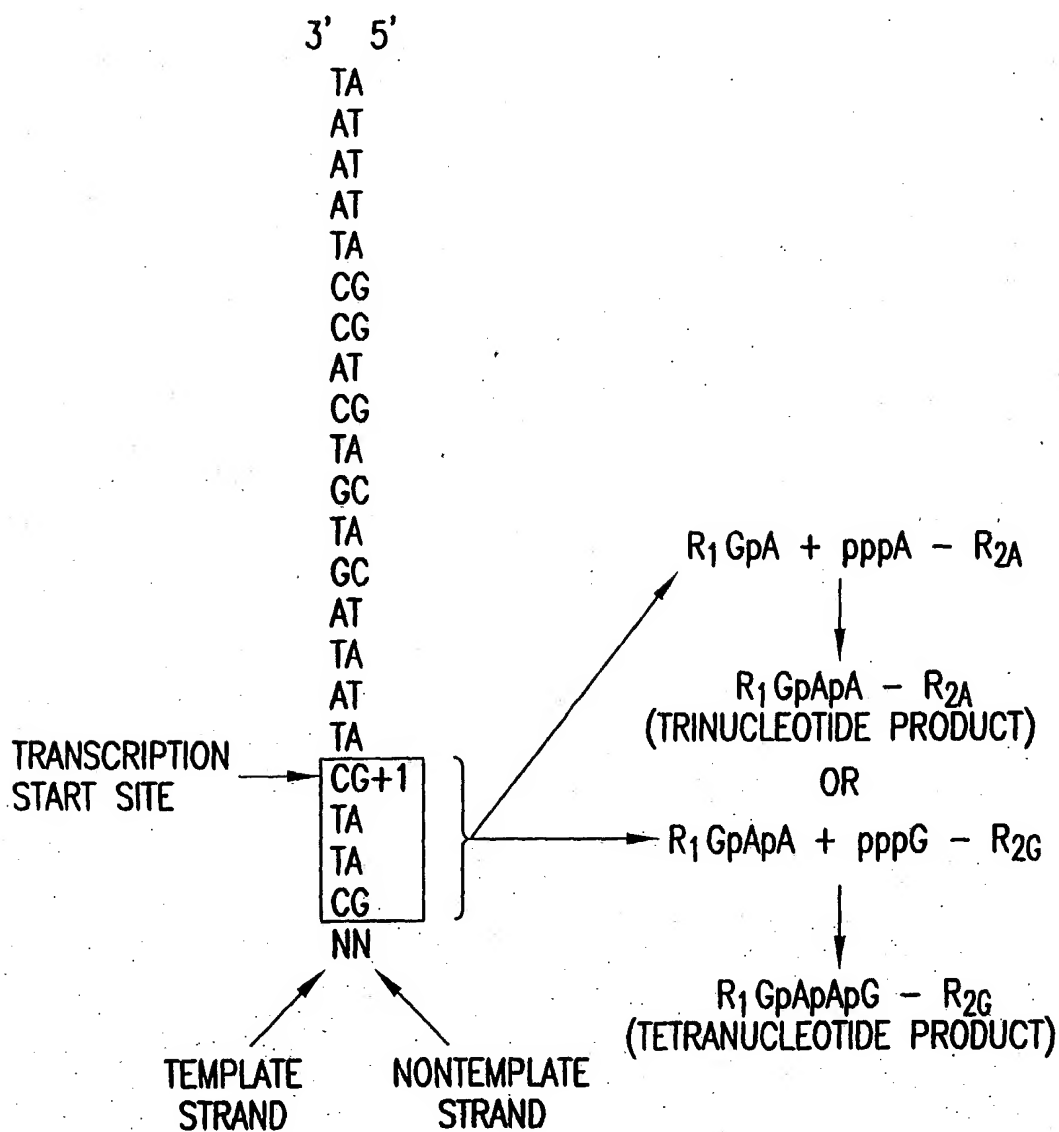
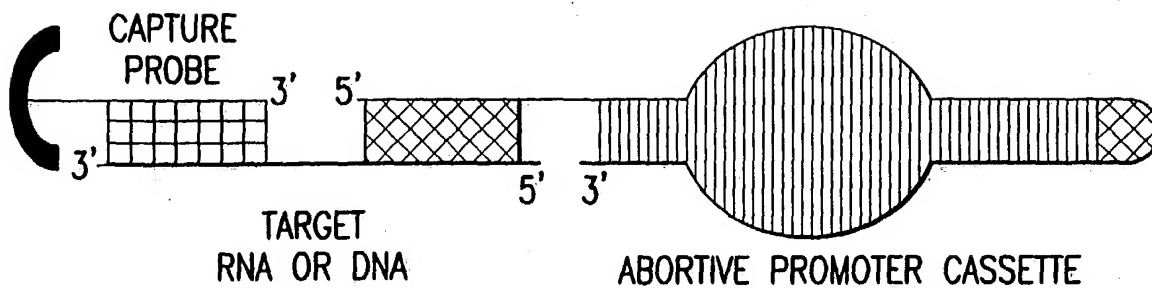


FIG.19

Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna.; Tel: 202.371-2600

Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis

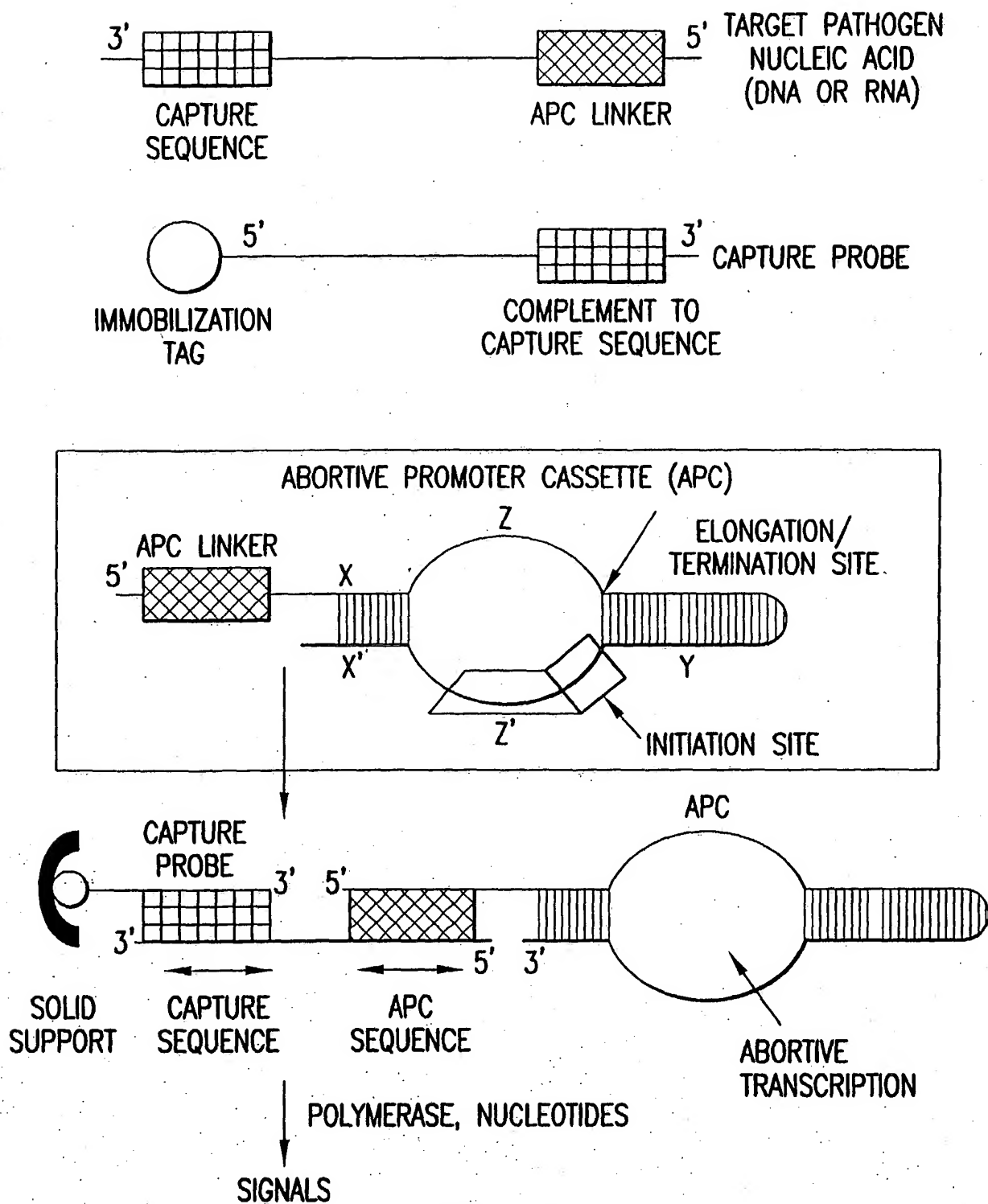


FIG.20

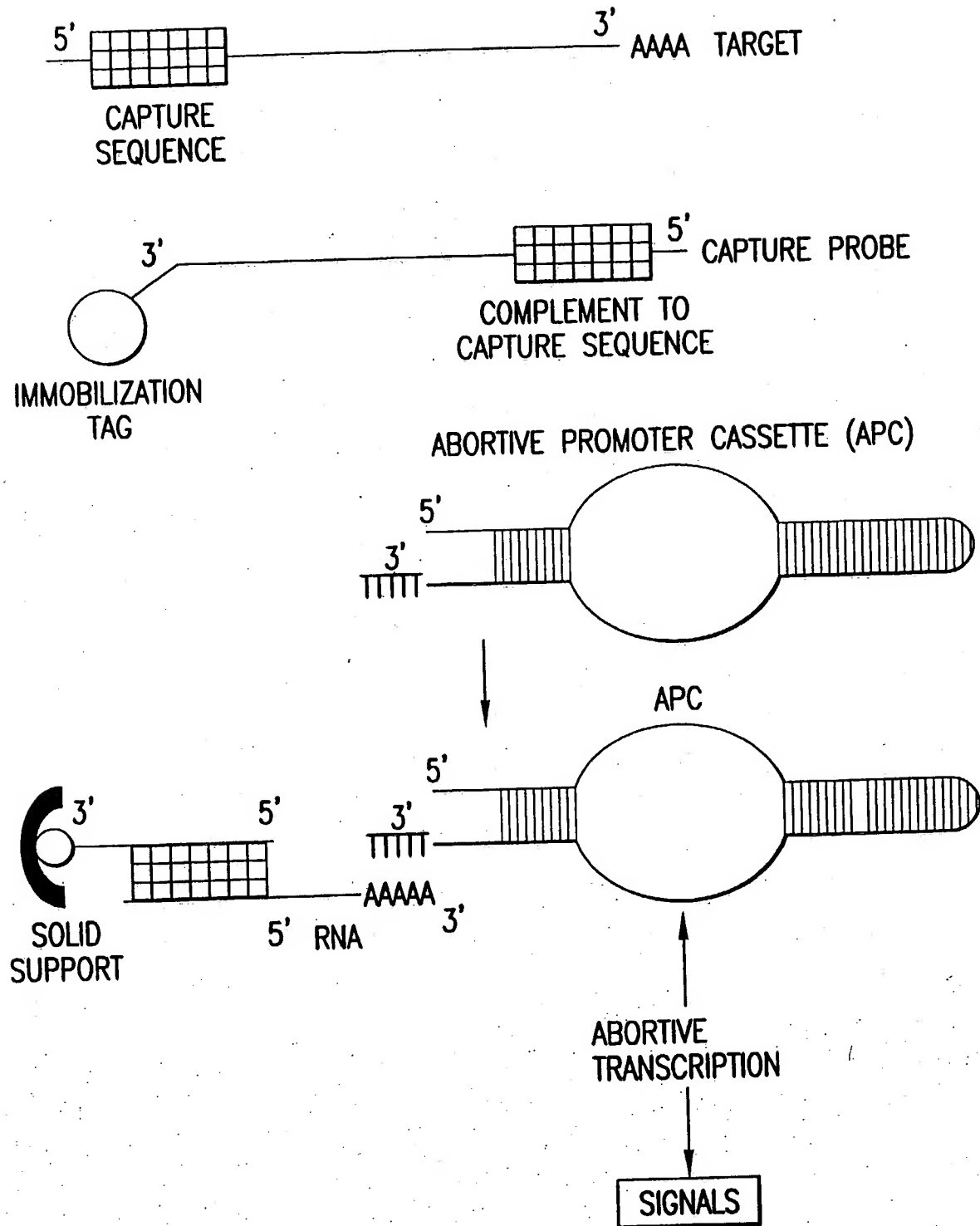


FIG.21

Appl. No. To Be Assigned; Group Art Unit: To Be  
Assigned; Inventors: Michelle M. Hanna; Tel:  
202.371-2600  
Title: Molecular Detection Systems Utilizing  
Reiterative Oligonucleotide Synthesis

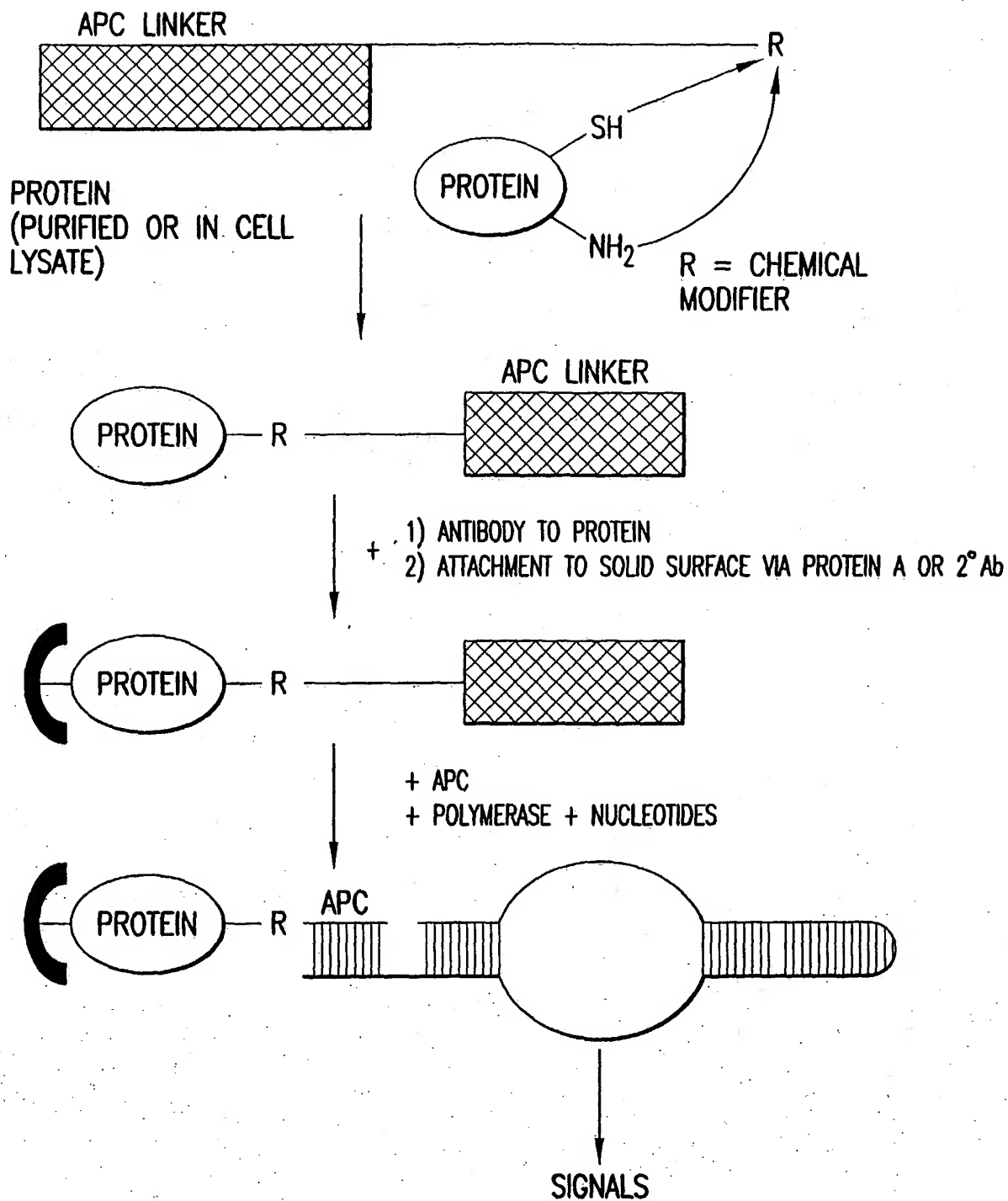


FIG.22

Appl. No. To Be Assigned; Group Art Unit: To Be Assigned; Inventors: Michelle M. Hanna; Tel: 202.371-2600  
**Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis**

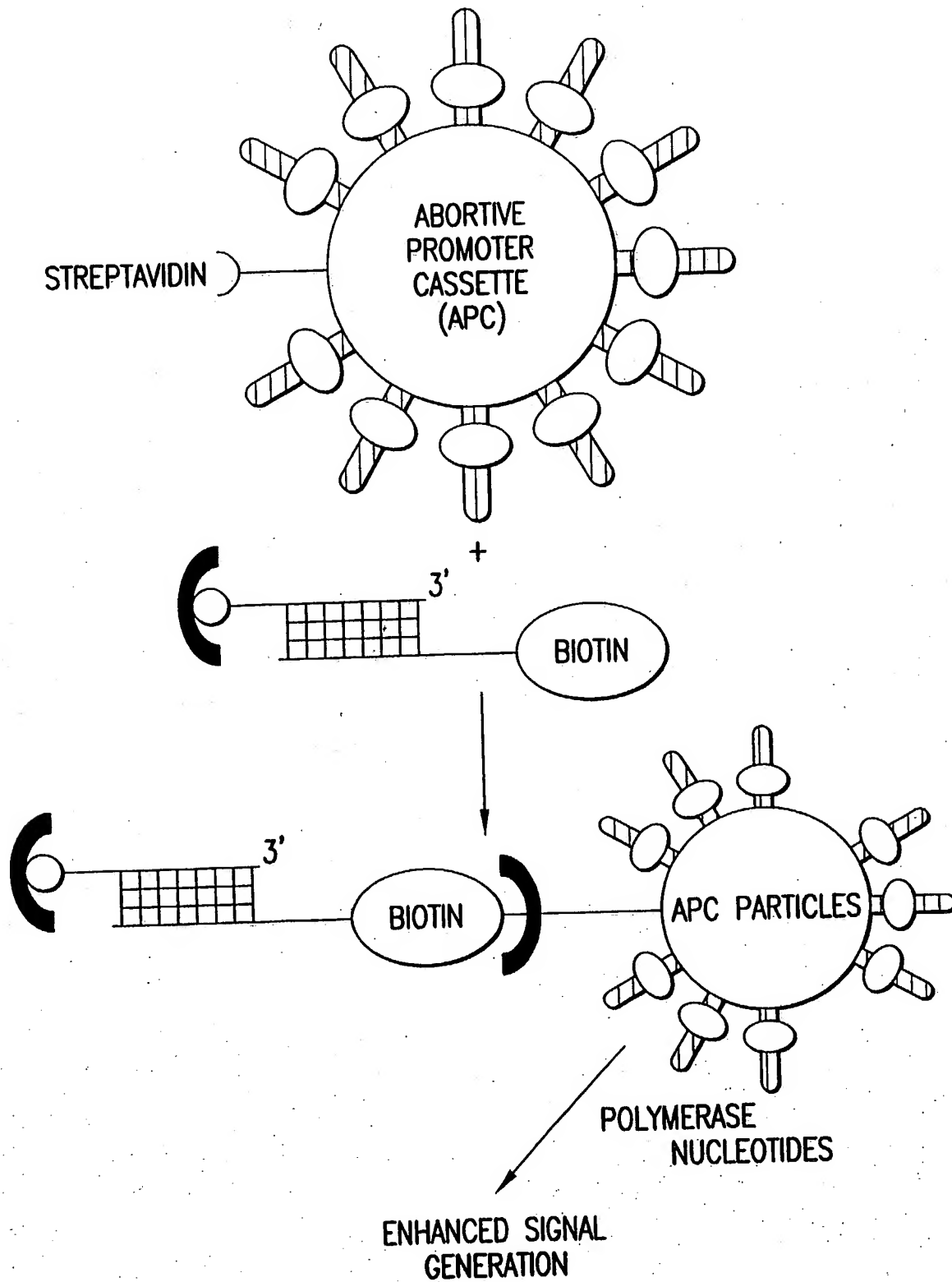
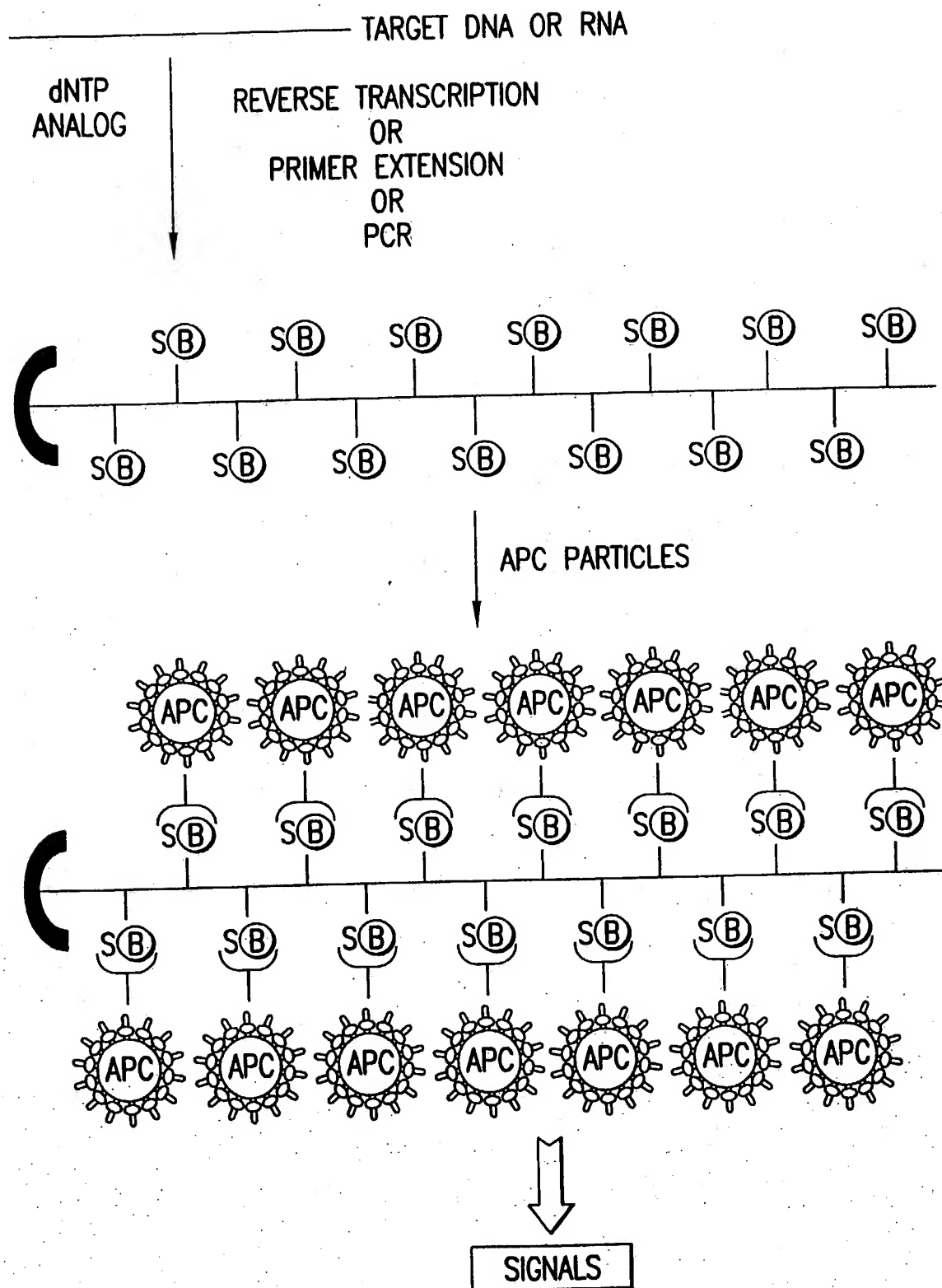


FIG.23

**FIG.24**



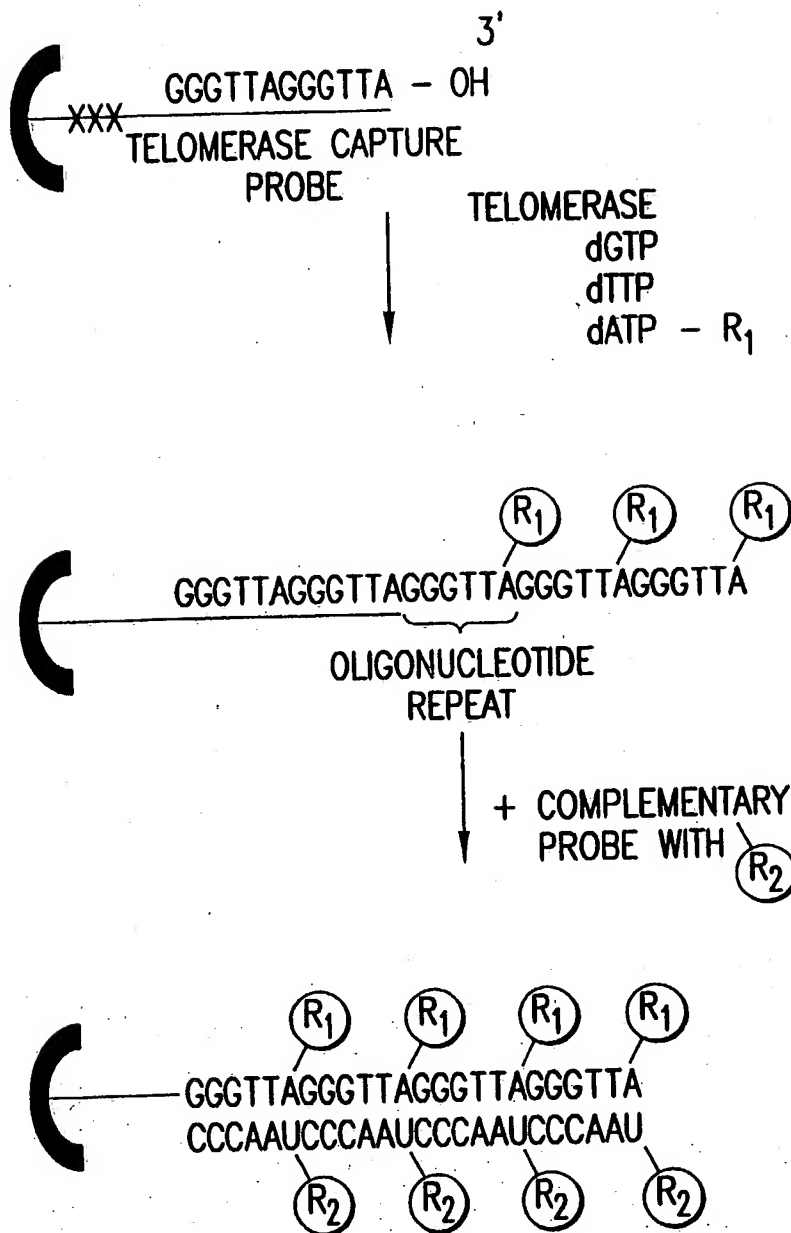
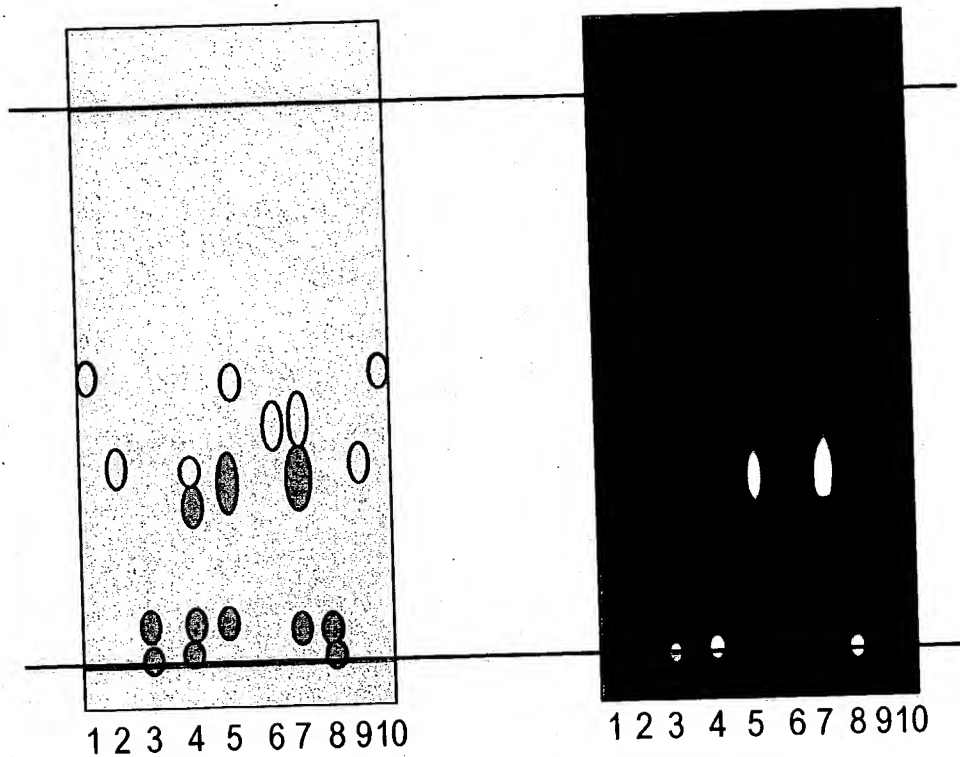


FIG.25

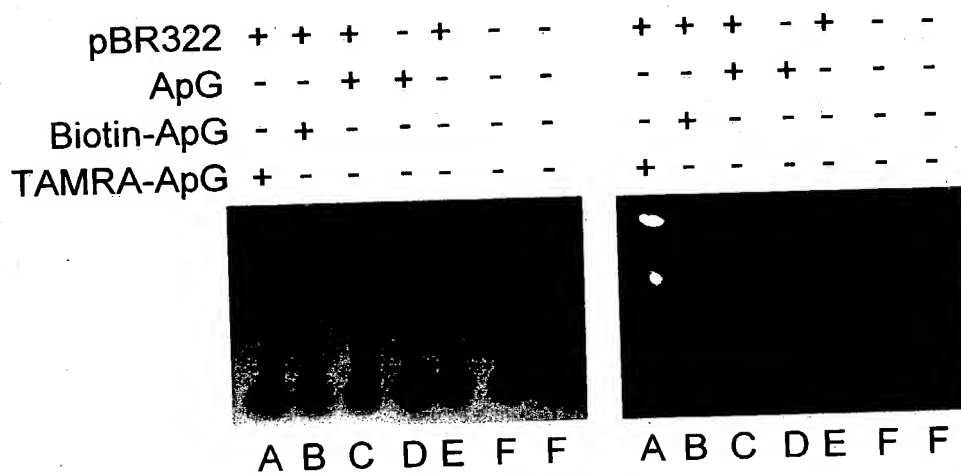
Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
**Title: Molecular Detection Systems Utilizing  
 Reiterative Oligonucleotide Synthesis**



Lane 1 CMPS  
 Lane 2 CTPS  
 Lane 3 IAEDANS  
 Lane 4 AEDANS-SpppC  
 Lane 5 AEDANS-S-pC  
 Lane 6 AMPS  
 Lane 7 AEDANS-SpA  
 Lane 8 IAEDANS  
 Lane 9 CTPS  
 Lane 10 CMPS

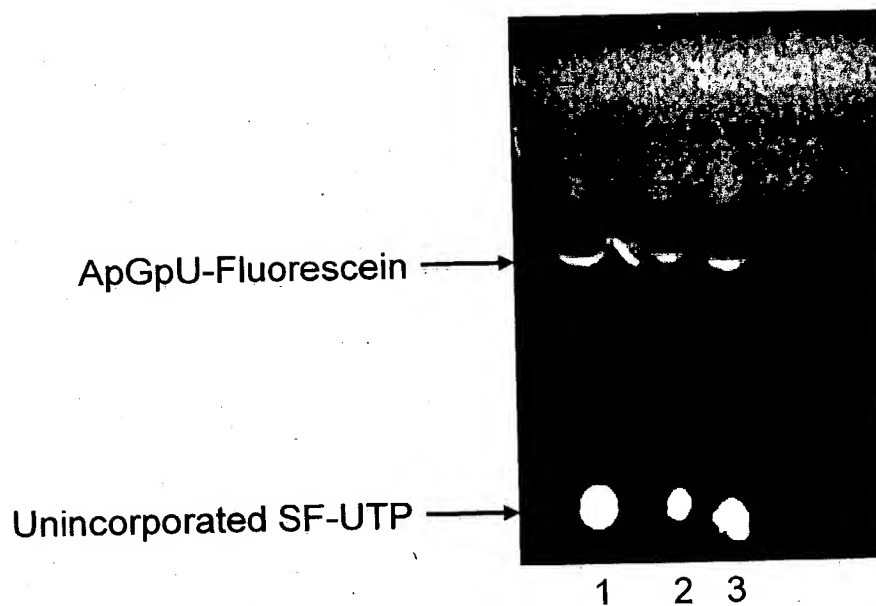
**FIG.26**

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
**Title: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis**



**FIG.27**

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
**Title: Molecular Detection Systems Utilizing  
Reiterative Oligonucleotide Synthesis**



**FIG.28**

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
Title: Molecular Detection Systems Utilizing  
Reiterative Oligonucleotide Synthesis

ATATACTGGGCTACAAGGTTAAGTCAACCAGGGATTGAAATATAACTTTAAACAGAGCTGGATTATCCAGT  
AGGCAGATTAAGCATGTGCTTAAGGCATCAGCAAAGTCTGAGCAATCCATTTTTTAAACGTAGTACATGTTTT  
TGATAAGCTTAAAAAGTAGTAGTCACAGGAAAAATTAGAACTTTTACCTCCTTGGCCTTGTTATACTCTTTAGT  
GCTGTTTAACTTTTTCTTTGTAAGTGAGGGTGGTGGAGGGTGCCATAATCTTTTCAGGGAGTAAGTTCTTCTT  
GGTCTTTCTTTCTTTCTTTCTTTCTTTTTCTTGAGACCAAGTTTCGCTCTTGCTCCCAGGCTGGAGTGCAA  
TGGCGCGATCTCGGCTCACTGCAACCTCCGCCTTCTCCTGGGTTCAAGCGATTCTCCTACATCAGCCTCCGA  
GTAGCTGGGATTACAGGCATGCGCCACCAAGCCCCGCTAATTTTGATTTTTTAGTAGAGACAGGGTTTCGC  
CATGTTGGTCAGGCTTGCTCGAACTCCTGGCCTCAGGTGATCCGCCTGTCTCGGCCTCCAGAATGCTGG  
GATTATAGACGTGAGCCACCGCATCCGGACTTTCTTTTATGTAATAGTGATAATTCTATCCAAAGCATTTTTT  
TTTTTTTTTGAGTCGGAGTCTCATTCTGTCAACCAGGCTGGAGGGTGGTGGCGCGATCTCGGCTTACTGCAA  
CCTCTGCCTCCCGGGTTCAAGCGATTCTCCTGCCTCAGCCTCTGAGTAGCTGGAATTACACACGTGCGCCA  
CCATGGCCAGCTAATTTTTGTATTTTTAGTAGAGACGGGGTGTCAACATTTTGGCCAAGCTGGCCTCGAACTC  
CTGACCTCAGGTGATCTGCCCGCTCGGCTTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGCGTCTCT  
GCTCCAAAGCATTTTCTTTCTATGCCTCAAACAAGATTGCAAGCCAGTCCTCAAAGCGGATAATTCAAGAGC  
TAACAGGTATTAGCTTAGGATGTGTGGCACTGTTCTTAAGGCTTATATGTATTAATACATCATTTAAACTCACA  
ACAACCCCTATAAAGCAGGGGGCACTCATATTCCTTCCCTTTTATAATTACGAAAAATGCAAGGTATTTTC  
AGTAGGAAAGAGAAATGTGAGAAGTGTGAAGGAGACAGGACAGTATTTGAAGCTGGTCTTTGGATCACTGTG  
CAACTCTGCTTCTAGAACTGAGCACTTTTCTGGTCTAGGAATTATGACTTTGAGAATGGAGTCCGTCCTT  
CCAATGACTCCCTCCCATTTTCTATCTGCCTACAGGCAGAATTCTCCCCGTCCTATTAAATAAACCTCA  
TCTTTTCAGAGTCTGCTCTTATACCAGGCAATGTACAGTCTGAGAAACCCTTGCCCCAGACAGCGTTTTAC  
ACGCAGGAGGGGAAGGGGAGGGGAAGGAGAGAGCAGTCCGACTCTCCAAAGGAATCCTTTGAACTAGGG  
TTTCTGACTTAGTGAACCCCGCTCCTGAAAATCAAGGGTTGAGGGGGTAGGGGGACACTTTCTAGTCGTA  
CAGGTGATTTGATTCTCGGTGGGGCTCTCACAAGTAAAGAAATAGTTTTGCTTTTTCTTATGATTAAGA  
AGAAGCCATACTTTCCCTATGACACCAAACACCCCGATTCAATTTGGCAGTTAGGAAGGTTGTATCGCGGAG  
GAAGGAAACGGGGCGGGGCGGATTTCTTTTTAACAGAGTGAACGCACTCAACACGCCTTTGCTGGCAGG  
CGGGGGAGCGCGCTGGGAGCAGGGAGGCCGGAGGGCGGTGTGGGGGGCAGGTGGGGAGGAGCCAGT  
CCTCCTTCTTGCCAACGCTGGCTCTGGCGAGGGCTGCTCCGGCTGGTGCCCCGGGGGAGACCCAACC  
TGGGGCGACTTCAGGGGTGCCACATTCGCTAAGTGCTCGGAGTTAATAGCACCTCCTCCGAGCACTCGCTC  
ACGGCGTCCCTTGCTTGAAAAGATACCGCGGTCCCTCCAGAGGATTTGAGGGACAGGGTCCGAGGGGGC  
TCTTCCGCCAGCACCGGAGGAAGAAAGAGGAGGGGCTGGCTGGTACCAGAGGGTGGGGCGGACCGCGT  
GCGCTCGGCGGCTGCGGAGAGGGGAGAGCAGGCAGCGGGCGGGGAGCAGCATGGAGCCGGCGGC  
GGGGAGCAGCATGGAGCCTTCGGCTGACTGGCTGGCCACGGCCGCGGGCCGGGTAGAGGAGGT  
GCGGGCGCTGCTGGAGGCGGGGCGCTGCCAACGCACCGAATAGTTACGGTGGAGGCCGATCCAGGT  
GGGTAGAGGGTCTGCAGCGGAGCAGGGGATGGCGGGCACTCTGGAGGACGAAGTTTGCAGGGGAATT  
GGAATCAGGTAGCGCTTCGATTCTCCGAAAAAGGGAGGCTTCTGGGGAGTTTTAGAAGGGGTTGTGA  
ATCACAGACCTCCTCCTGGCGACGCCCTGGGGGCTTGGGAAGCCAAGGAAGAGGAATGAGGAGCCACGCG  
CGTACAGATCTCTGAATGCTGAGAAGATCTGAAGGGGGGAACATATTTGTATTAGATGGAAGTATGCTCTTT  
ATCAGATACAAAATTTACGAACGTTTGGGATAAAAAGGGAGTCTTAAAGAAATGTAAGATGTGCTGGGACTAC  
TTAGCCTCCAATTCACAGATACCTGGATGGAGCTTATCTTTCTTACTAGGAGGATTATCAGTGGAAATCTGT

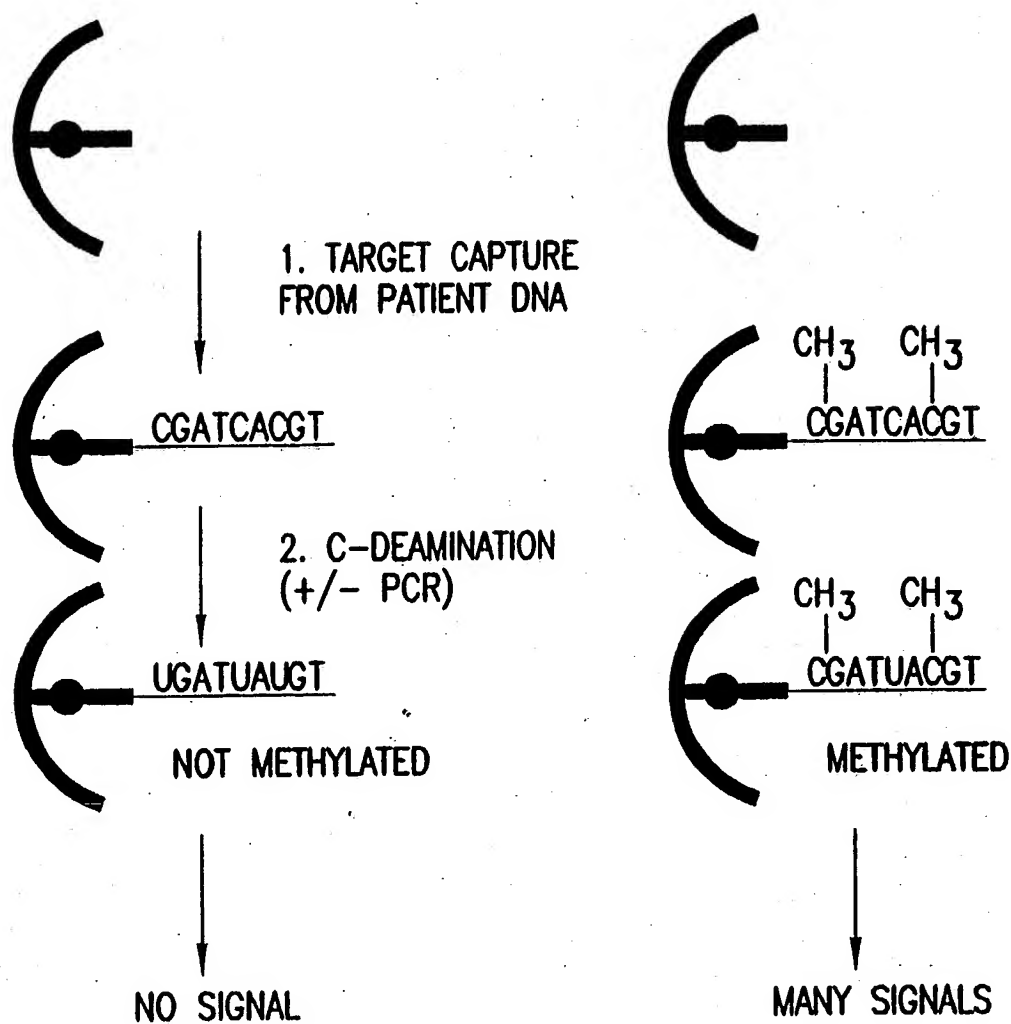
FIG. 29A

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
Title: Molecular Detection Systems Utilizing  
Reiterative Oligonucleotide Synthesis

GGTGTATGTTGGAATAAATATCGAATATAAATTTTGATCGAAATTATTCAGAAGCGGCCGGGCGCGGTGCCTC  
ACGCCTTGTAATCCCTTCACTTTGGGAGATCAAGGCGGGGGAATCACCTGAGGTCGGGAGTTCGAGACCA  
GCCTGGCCAACAGGTGAAACCTCGCCTCTACTAAAAATACAAAAAGTAGCCGGGGGTGGTGGCAGGCGCCT  
GTAATCCCAGCTACTCGGGAGGTTGAGGCAGGAGAATCGCTTGAACCCGGGAGGCTGAGGTTGTAGTGAAC  
AGCGAGATGGAGCCACTTCACTCCAGCCTGGGTGACAGAGTGAGACTTTGTCGAAAGAAAGAAAGAGAGAA  
AGAGAGAGAGAAAAATTATTCAGAAGCAACTACATATTGTGTTTATTTTAACTGAGTAGGGCAAATAAATATA  
TGTTTGCTGTAGGAACCTAGGAAATAATGAGCCACATTCATGTGATCATTCCAGAGGTAATATGTAGTTACCAT  
TTTGGGAATATCTGCTAACATTTTTGCTCTTTTACTATCTTTAGCTTACTTGATATAGTTTATTTGTGATAAGAG  
TTTTCAATTCCTCATTTTTGAACAGAGGTGTTTCTCCTCTCCCTACTCCTGTTTTGTGAGGGAGTTAGGGGAG  
GATTTAAAAGTAATTAATACATGGGTAACCTAGCATCTCTAAAATTTTGCCAACAGCTTGAACCCGGGAGTTTG  
GCTTTGTAGTCCTACAATATCTTAGAAGAGACCTTATTTGTTTAAAAACAAAAAGGAAAAAGAAAAGTGGATAG  
TTTTGACAATTTTAAATGGAG

**FIG. 29B**

Appl. No. *To Be Assigned*; Group Art Unit: *To Be Assigned*; Inventors: Michelle M. Hanna.; Tel: 202.371-2600  
**Title: Molecular Detection Systems Utilizing Relative Oligonucleotide Synthesis**



**FIG. 30**